

IN THE CLAIMS

The claims of the application, as amended are:

1. (Previously Presented) An electrical heating arrangement comprising: a cooking plate (4) having an upper surface (6) for receiving a cooking utensil (8), and a lower surface (10); an electric heater (12) incorporating at least one electric heating element (20), the heater being supported in contact with the lower surface of the cooking plate; and a temperature sensor assembly (30), wherein the temperature sensor assembly comprises: an elongate substantially planar substrate (32) located in the heater and extending at least partially across the heater from a peripheral region (34) at least to a central region (36) of the heater, the substrate having an upper surface (38) located in contact with, or in close proximity to, the lower surface of the cooking plate, and also a having a lower surface (66), the upper and/or lower surface or surfaces of the substrate being provided with at least one first temperature-sensitive electrical resistance element (40) of film form at a first region (42) of the substrate proximate the peripheral region of the heater, the upper and/or lower surface or surfaces of the substrate being provided with at least one second temperature-sensitive electrical resistance element (54; 54A; 54B) of film form at a second region (56) of the substrate proximate the central region of the heater, the first and second temperature-sensitive electrical resistance elements being provided with electrical connecting leads (44, 46, 58, 60) for electrical connection to external control circuit means (28) for the heater; at least one support member (70, 102) secured to the substrate and underlying at least the first region of the substrate; and thermal insulation means (74) interposed between at least the lower surface of the substrate and the at least one support member substantially only at the first region of the substrate.

2. (Previously Presented) An arrangement as claimed in claim 1, wherein the thermal insulation means (74) shields the at least one first temperature-sensitive electrical resistance element (40) and a region (98) of the cooking plate (4) overlying the at least one first temperature-sensitive electrical resistance element, from direct thermal radiation from the at least one electric heating element (20).

3. (Previously Presented) An arrangement as claimed in claim 1 wherein the at least one first temperature-sensitive electrical resistance element (40) is arranged for monitoring temperature of the cooking utensil (8) through the cooking plate (4).

4. (Previously Presented) An arrangement as claimed in claim 1, wherein the at least one second temperature-sensitive electrical resistance element (54; 54A; 54B) is arranged for monitoring temperature of the lower surface (10) of the cooking plate (4).

5. (Previously Presented) An arrangement as claimed in claim 1, wherein at least two second temperature-sensitive electrical resistance elements (54; 54A; 54B) are provided on the upper and/or lower surfaces (38, 66) of the substrate (32).

6. (Previously Presented) An arrangement as claimed in claim 1, wherein the upper surface (38) of the substrate (32) is arranged at a distance of 0 mm to about 3.5 mm from the lower surface (10) of the cooking plate (4).

7. (Previously Presented) An arrangement as claimed in claim 1, wherein the at least one support member (70, 102) is of channel form for receiving at least the first region (42) of the substrate (32) and the thermal insulation means (74).

8. (Previously Presented) An arrangement as claimed in claim 1, wherein the thermal insulation means (74) is additionally interposed between the at least one support member (70, 102) and one or more side edges of the substrate (32) at the first region (42) of the substrate.

9. (Canceled)

10. (Canceled)

11. (Previously Presented) An arrangement as claimed in claim 1, wherein the thermal insulation means (74) has a thickness of from 1 mm to 10 mm between the substrate (32) and the at least one support member (70, 102).

12. (Previously Presented) An arrangement as claimed in claim 11, wherein the thermal insulation means (74) has a thickness of from 2 mm to 4 mm.

13. (Previously Presented) An arrangement as claimed in claim 1, wherein the first and second regions (42, 56) of the substrate (32) have substantially the same width.

14. (Previously Presented) An arrangement as claimed in claim 1, wherein the second region (56) of the substrate (32) is narrower than the first region (42) of the substrate.

15. (Previously Presented) An arrangement as claimed in claim 1, wherein a single support member (70, 102) underlies both the first and second regions (42, 56) of the substrate (32).

16. (Previously Presented) An arrangement as claimed in claim 15, wherein the support member (70, 102) is provided with one or more apertures (104) at one or more

regions thereof underlying the second region (56) of the substrate (32), whereby exposure of the second region of the substrate to the effect of thermal radiation from the at least one electric heating element of the heater is maximised.

17. (Previously Presented) An arrangement as claimed in claim 1, wherein separate support members (70, 102) are provided for the first and second regions (42, 56) of the substrate (32).

18. (Canceled)

19. (Previously Presented) An arrangement as claimed in claim 1, wherein thermal conduction reduction means (100) is provided to reduce or minimise thermal conduction along the substrate (32) from the second region (56) thereof to the first region (42) thereof.

20. (Canceled)

21. (Canceled)

22. (Canceled)

23. (Canceled)

24. (Previously Presented) An arrangement as claimed in claim 1, wherein the substrate (32) has a thickness from about 0.25 mm to about 3 mm.

25. (Previously Presented) An arrangement as claimed in claim 24, wherein the substrate (32) has a thickness from about 0.5 mm to about 1 mm.

26. (Previously Presented) An arrangement as claimed in claim 1, wherein the substrate (32) and the support member (70, 102) extend outwardly from the heater (12) at a periphery of the heater and are secured to the heater at the periphery of the heater.

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Previously Presented) An arrangement as claimed in claim 1, wherein the electrical connecting leads (44, 46, 58, 60) for the first and second temperature-sensitive electrical resistance elements (40; 54, 54A, 54B) are of film form on the substrate (32) and extend to an end of the substrate located at a periphery of the heater (12).

32. (Previously Presented) An arrangement as claimed in claim 31, wherein the film-form electrical connecting leads (44, 46, 58, 60) are provided with electrical terminal means (48, 50, 62, 64), adapted for electrical connection to external electrically conducting leads (94, 96) leading to the external control circuit means (28).

33. (Canceled)

34. (Canceled)

35. (Previously Presented) An arrangement as claimed in claim 1, wherein one or more electrically insulating or passivation layers is or are provided on the upper and/or lower

surface or surfaces (38, 66) of the substrate (32) at least overlying the at least one first and/or the at least one second temperature-sensitive electrical resistance element or elements 40; 54; 54A, 54B).

36. (Canceled)

37. (Canceled)

38. (Previously Presented) An arrangement as claimed in claim 15, wherein the support member (70, 102) is provided with a coating of a material of high thermal emissivity, whereby exposure of the second region of the substrate to the effect of thermal radiation from the at least one electric heating element of the heater is maximised.

39. (Previously Presented) An arrangement as claimed in claim 19, wherein the thermal conduction reduction means comprises providing the substrate with one or more apertures (104) therethrough at a location intermediate the first and second regions (42, 56) thereof.

40. (Previously Presented) An arrangement as claimed in claim 19, wherein the thermal conduction reduction means comprises providing the substrate of low thermal conductivity material.